

## Environmental Protection Agency

## § 91.329

(1) Zero the analyzer using the appropriate zero gas. Adjust analyzer zero if necessary. Zero reading should be stable.

(2) Span the analyzer using the appropriate span gas for the range being calibrated. Adjust the analyzer to the calibration set point if necessary.

(3) Recheck zero and span set points.

(4) If the response of the zero gas or span gas differs more than one percent of full scale, then repeat paragraphs (e)(1) through (3) of this section.

### § 91.327 Sampling system requirements.

(a) *Sample component surface temperature.* For sampling systems which use heated components, use engineering judgment to locate the coolest portion of each component (pump, sample line section, filters, and so forth) in the heated portion of the sampling system that has a separate source of power or heating element. Monitor the temperature at that location. If several components are within an oven, then only the surface temperature of the component with the largest thermal mass and the oven temperature need be measured.

(b) If water is removed by condensation, monitor the sample gas temperature or sample dew point either within the water trap or downstream. It may not exceed 7 °C.

### § 91.328 Measurement equipment accuracy/calibration frequency table.

(a) The accuracy of measurements must be such that the maximum tolerances shown in Table 2 in appendix A to this subpart are not exceeded.

(b) Calibrate all equipment and analyzers according to the frequencies shown in Table 2 in appendix A to this subpart.

(c) Prior to initial use and after major repairs, bench check each analyzer (see § 91.323).

(d) Calibrate as specified in § 91.306 and §§ 91.315 through 91.322.

(e) At least monthly, or after any maintenance which could alter calibra-

tion, perform the following calibrations and checks.

(1) Leak check the vacuum side of the system (see § 91.324(a)).

(2) Verify that the automatic data collection system (if used) meets the requirements found in Table 2 in appendix A to this subpart.

(3) Check the fuel flow measurement instrument to insure that the specifications in Table 2 in appendix A to this subpart are met.

(f) Verify that all NDIR analyzers meet the water rejection ratio and the CO<sub>2</sub> rejection ratio as specified in § 91.325.

(g) Verify that the dynamometer test stand and power output instrumentation meet the specifications in Table 2 in appendix A to this subpart.

### § 91.329 Catalyst thermal stress test.

(a) *Oven characteristics.* The oven used for thermally stressing the test catalyst must be capable of maintaining a temperature of 500 ±5 °C and 1000 ±10 °C.

(b) *Evaluation gas composition.* (1) A synthetic exhaust gas mixture is used for evaluating the effect of thermal stress on catalyst conversion efficiency.

(2) The synthetic exhaust gas mixture must have the following composition:

Constituent	Volume percent	Parts per million
Carbon Monoxide <sup>1</sup> .....	1	.....
Oxygen .....	1.3	.....
Carbon Dioxide .....	9	.....
Water Vapor .....	10	.....
Sulfur Dioxide .....	.....	20
Oxides of Nitrogen .....	.....	280
Hydrogen .....	.....	3500
Hydrocarbon <sup>1,2</sup> .....	.....	4000
Nitrogen=Balance .....	.....	.....

<sup>1</sup>Alternatively, the carbon monoxide and hydrocarbon proportions of the mixture may be changed to 1.2% and 4650 ppm, respectively (using one of these alternative concentrations requires that the other be used simultaneously).

<sup>2</sup>Propylene/propane ratio=2/1.

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